

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
25 November 2004 (25.11.2004)

PCT

(10) International Publication Number
WO 2004/101417 A3

(51) International Patent Classification⁷: **E21B 19/06**
(21) International Application Number:
PCT/NO2004/000146
(22) International Filing Date: 14 May 2004 (14.05.2004)
(25) Filing Language: English
(26) Publication Language: English
(30) Priority Data:
20032220 15 May 2003 (15.05.2003) NO

(71) Applicant (for all designated States except US): **MECH-
LIFT AS** [NO/NO]; Skeie, N-4596 Eiken (NO).

(72) Inventor; and

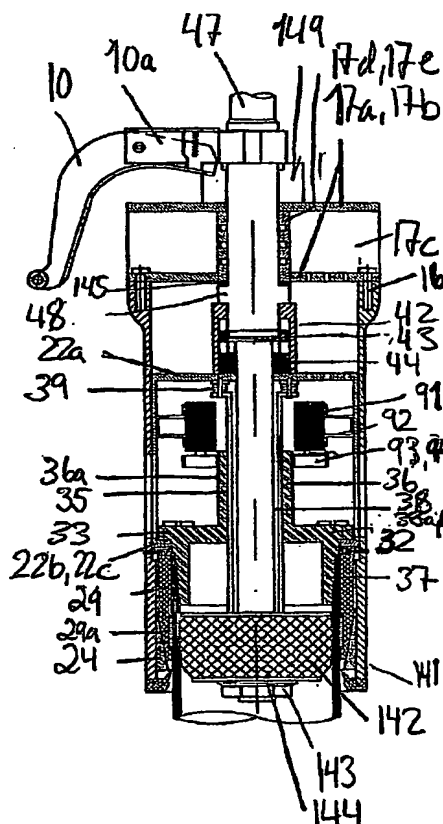
(75) Inventor/Applicant (for US only): **CHRISTENSEN,
Matheus** [NO/NO]; Veddertoppen 61, N-4640 Søgne
(NO).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: **INTERNAL RUNNING ELEVATOR**



(57) Abstract: The invention relates to a lifting tool for handling of a pipe-string (2) pipe length (3, 4) for joining and lowering or lifting and disassembly of conductor, casing, risers, drill string, or similar in a bore hole (160) or well (160). The invention also relates to a lifting system for lifting or lowering pipe length (3, 4) and pipe-string (2), for joining and lowering or lifting and disassembling of conductor, casing, risers, drill string, or similar in a bore hole (160) or well (160). The lifting system comprises a lifting tool with a lifting part (20) and a support part (5) connected to an elevator apparatus (70) which is mounted to a top drive (60) and where the lifting tool lifting part (20) shall operate in conjunction with a power slip (150) which is configured to receive and hold in a fixed position a standing pipe length or pipe-string (2). Finally the invention comprises a method for lifting of pipe length for joining of pipe length (3, 4) to a pipe-string (2), including conductor, casing, risers, or similar for use in a bore hole or well (160) with the use of a lifting system and lifting tool according to the invention.

WO 2004/101417 A3



Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

(88) Date of publication of the international search report:
3 February 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000146

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: E21B 19/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: E21B, B66C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3278220 A (A.B. WILSON ET AL), 11 October 1966 (11.10.1966), whole document --	1-3,5-13, 15-17,19-36
X	US 3265431 A (D.L.B. NORMAN), 9 August 1966 (09.08.1966), whole document --	37-45,48-50, 52-54
X	EP 1099824 A2 (CASTILLE, D.J. ET AL), 16 May 2001 (16.05.2001), whole document --	55-56,58-61, 63-73
X	WO 9911902 A1 (WEATHERFORD/LAMB, INC. ET AL), 11 March 1999 (11.03.1999), whole document	82
Y	--	83-92

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

16 November 2004

Date of mailing of the international search report

17 -11- 2004

Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Christer Bäcknert / MRo

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NO 2004/000146

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3857450 A (W. GUIER), 31 December 1974 (31.12.1974), whole document -----	83-92

INTERNATIONAL SEARCH REPORT

Information on patent family members

30/10/2004

International application No.

PCT/NO 2004/000146

US 3278220 A 11/10/1966 NONE

US 3265431 A 09/08/1966 NONE

EP 1099824 A2 16/05/2001

AU	2739697 A	07/08/1998
CA	2274650 A	23/07/1998
DE	69706196 D,T	29/11/2001
DE	69724670 D,T	29/07/2004
DK	966592 T	22/10/2001
DK	1099824 T	29/12/2003
EP	0966592 A,B	29/12/1999
NO	313967 B	06/01/2003
NO	993518 A	16/09/1999
US	5791410 A	11/08/1998
US	5909768 A	08/06/1999
WO	9831914 A	23/07/1998

WO 9911902 A1 11/03/1999

AU	8874098 A	22/03/1999
CA	2302231 A	11/03/1999
DE	69811517 D,T	06/11/2003
EP	1012439 A,B	28/06/2000
GB	9718543 D	00/00/0000
US	20040003490 A	08/01/2004
US	20040035587 A	26/02/2004

US 3857450 A 31/12/1974 NONE